

ABSTRACT OF THE DISCLOSURE

A target cap for preventing the production of contaminating secondary x-rays from a stationary anode x-ray tube is disclosed. The x-ray tube includes an evacuated enclosure in which is disposed a cathode and an anode. The target cap is useful in applications such as x-ray fluorescence spectroscopy for improving the spectral purity of the stream of primary x-rays produced by electron bombardment of the anode target surface by the cathode. In one embodiment, the target cap comprises a top target surface and a side wall covering a portion of the anode substrate. Electrons backscattered from the target surface are attracted to the anode substrate and impact the side wall of the target cap, producing secondary x-rays having characteristic wavelengths that are substantially identical to those of the primary x-rays produced by the target surface and are therefore not contaminating to the primary x-ray stream.

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